

REMARKS

Claims 1-7 in the above-identified application have been canceled and new claims 8-19 have been added. Applicant's propose the addition of new claims 8-11 which require a magnetic tunnel junction element including a free layer on a fixed layer, wherein a width of the free layer is equal to or less than a width of the fixed layer. This language is fully supported in the specification at page 16, lines 15-19 and in the drawings at FIG. 6. Applicant's propose the addition of new claims 16-19 which require an upper conductive gap layer that forms a projection which abuts a portion of a magnetic tunnel junction element. This language is fully supported in the specification at page 18, lines 16-20 and in the drawings at FIG. 6. Applicants maintains that no new matter has been added with these new claims.

Claim 7, which is now canceled, had been rejected under 35 U.S.C. § 102 (e) as being anticipated by *Hayashi et al.* (U.S. Patent No. 6,624,987). *Hayashi et al.* discloses a magnetoresistive effect element having a lower shield layer 11 and a lower electrode layer 12 deposited on a substrate. (See *Hayashi et al.*, column 7, line 64 to column 8, line 17). In a sixth embodiment, *Hayashi et al.* discloses a lower shield layer 11 which also serves as a lower electrode layer 12 deposited on a substrate. A gap adjustment conductive layer 25 is then deposited on the lower shield layer 11. (See *Hayashi et al.*, column 15, lines 12-15). *Hayashi et al.* then further goes on to clarify that an upper gap layer may be provided between the upper electrode 14 and the upper shield layer 15 and a lower gap layer may be provided between the lower shield layer 11 and the lower electrode layer 12. (See *Hayashi et al.*, column 15, lines 36-40). Further down *Hayashi et al.* then clarifies that a simple substance, a multi-layer film or a mixture comprising Au, Ag, Cu, Mo, W, Y, Ti, Zr, Hf, V, Nb, Pt or Ta may be used for the lower electrode layer 12. (See *Hayashi et al.*, column 15, lines 65-67). *Hayashi et al.* then goes on to state that a simple substance, a multi-layer film or a mixture comprising Al Oxide, Silicon Oxide, Aluminum Nitride, Silicon Nitride or Diamond-like carbon may be used for the lower gap layer 21 and/or the upper gap layer 22.

Applicants newly added claims require that at least one of the conductive gap layers is formed from at least one *non-magnetic* metal layer containing metal elements. While *Hayashi et al.* discloses that a simple substance, a multi-layer film or a mixture comprising Au, Ag, Cu, Mo, W, Y, Ti, Zr, Hf, V, Nb, Pt or Ta may be used for a lower electrode layer 12, it fails to teach or even suggest that these elements in the lower electrode layer 12 are *non-magnetic*. Furthermore, *Hayashi et al.* makes a distinction between electrode layers, such as lower electrode layer 12, and gap layers, such as gap layers 21 and gap layers 22. By doing so, *Hayashi et al.* in fact teaches away from using elements such as Ti, Mo, V, Nb and Zr in gap layer since *Hayashi et al.* does not suggest using these elements in the lower gap layer 21 and/or the upper gap layer 22. Accordingly, Applicants submit that the claimed invention is neither anticipated nor obvious over the applied reference. Withdrawal of these grounds of rejection is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully submits that all present invention is in condition for allowance. Early notification of such effect is earnestly solicited. Should the Examiner have any remaining issue, Applicants kindly requests that the Examiner contact the undersigned.

Respectfully submitted,

SONNENSCHEIN NATH & ROSENTHAL LLP

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By:


David Rozenblat
Reg. No. 47,044

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